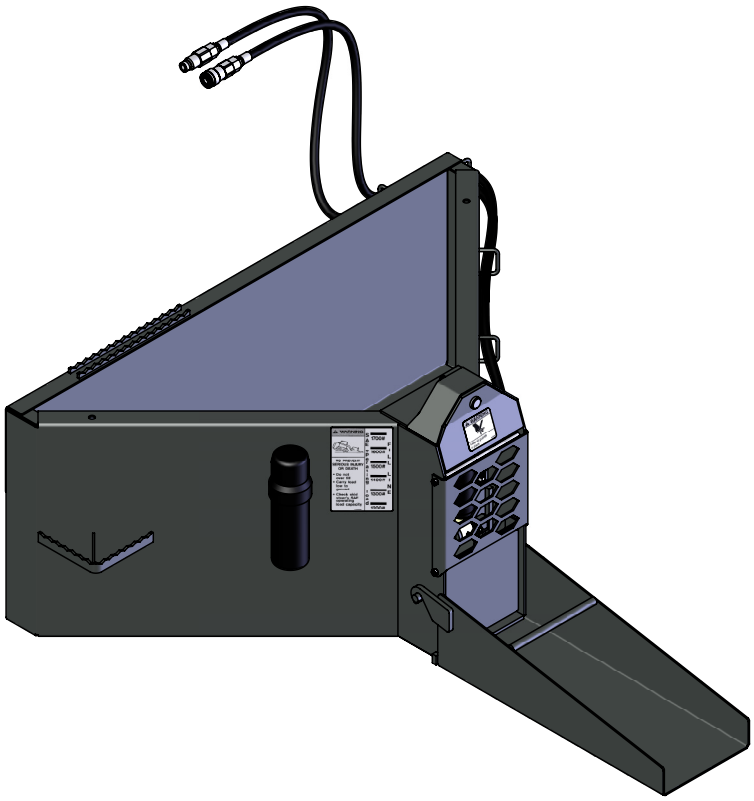
FFC BY PALADIN

OPERATOR'S AND PARTS MANUAL

CONCRETE CHUTER™
C50 / C75



SERIAL NUMBER: _____

MODEL NUMBER: _____

Manual Number: 51-10030
Part Number: 11050 & 11075
Rev. 2

800-456-7100 I www.paladinattachments.com 2800 N. Zeeb Rd., Dexter, MI. 48130, United States of America Copyright ©

1/9/14

Notes

TABLE OF CONTENTS

INTRODUCTION 2

GENERAL INFORMATION 2

SERIAL NUMBER 2

SAFETY PRECAUTIONS
- SAFETY STATEMENTS 3
- GENERAL SAFETY PRECAUTIONS 3-5
- EQUIPMENT SAFETY PRECAUTIONS 6-7

DECALS
- DECAL PLACEMENT 8
- DECALS 9

SPECIFICATIONS 10-11

OPERATION 12-14

TROUBLESHOOTING 15

MAINTENANCE 16-17

LABEL ASSEMBLY.....19

CONCRETE CHUTER™ ASSEMBLY PARTS ILLUSTRATION 20-23

WARRANTY 24

INTRODUCTION

Congratulations on your purchase of your new FFC product! This product has been designed and built solely for use in material handling. You or any other person who will be assembling, operating, maintaining, or working with this product are required to read and completely understand the information and instructions contained in this manual. If anyone does not fully understand every part of this manual, please obtain further assistance by contacting the dealer from which this product was purchased or by contacting FFC at the telephone number or address listed on the cover of this manual. Keep this manual available for reference whenever this product is being handled or used. Provide this manual to any new owners and/or operators.

This manual covers models:

Concrete Chuter™ 11050 and 11075.

CONCRETE CHUTER™ FUNCTION

The Concrete Chuter™ attached to a prime mover provides a means to deliver concrete to an area that is not accessible by a delivery truck. A hydraulically controlled flow gate controls the dispensing of the concrete.

GENERAL INFORMATION

The purpose of this manual is to assist in assembling, mounting, operating, and maintaining your attachment. Read this manual carefully to obtain valuable information and instructions that will help you achieve years of safe and dependable service.

The illustrations and data used in this manual were current at the time of printing, but due to possible engineering and/or production changes, this product may vary slightly in detail. FFC reserves the right to redesign and/or change components as may be necessary without notification to anyone.

Throughout this manual, references may be made to:

Prime mover	The engine-driven machine to which this product must be attached.
Right, Left, Front, Rear	Directions that are determined in relation to the operator of the equipment when seated in the normal operation position.
IMPORTANT	Precautions that must be followed to prevent substandard performance.

SERIAL NUMBER LOCATION

Always refer to the model and serial number when ordering parts or requesting information from your dealer. See Safety Signs section for the location of the serial number plate for this product.

Reference Information	
Model Number	Loader Make
Serial Number	Loader Model
Date Purchased	Loader Serial Number

SAFETY STATEMENTS

THIS SYMBOL BY ITSELF OR WITH A WARNING WORD THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY OR THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.

DANGER **THIS SIGNAL WORD IS USED WHERE SERIOUS INJURY OR DEATH WILL RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.**

WARNING **THIS SIGNAL WORD IS USED WHERE SERIOUS INJURY OR DEATH COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.**

CAUTION **THIS SIGNAL WORD IS USED WHERE MINOR INJURY COULD RESULT IF THE INSTRUCTIONS ARE NOT FOLLOWED PROPERLY.**

NOTICE **NOTICE INDICATES A PROPERTY DAMAGE MESSAGE.**

GENERAL SAFETY PRECAUTIONS

WARNING! **READ MANUAL PRIOR TO INSTALLATION**

Improper installation, operation, or maintenance of this equipment could result in serious injury or death. Operators and maintenance personnel should read this manual, as well as all manuals related to this equipment and the prime mover thoroughly before beginning installation, operation, or maintenance. **FOLLOW ALL SAFETY INSTRUCTIONS IN THIS MANUAL AND THE PRIME MOVER'S MANUAL(S).**

READ AND UNDERSTAND ALL SAFETY STATEMENTS

Read all safety decals and safety statements in all manuals prior to operating or working on this equipment. Know and obey all OSHA regulations, local laws, and other professional guidelines for your operation. Know and follow good work practices when assembling, maintaining, repairing, mounting, removing, or operating this equipment.

KNOW YOUR EQUIPMENT

Know your equipment's capabilities, dimensions and operations before operating. Visually inspect your equipment before you start, and never operate equipment that is not in proper working order with all safety devices intact. Check all hardware to ensure it is tight. Make certain that all locking pins, latches, and connection devices are properly installed and secured. Remove and replace any damaged, fatigued, or excessively worn parts. Make certain all safety decals are in place and are legible. Keep decals clean, and replace them if they become worn and hard to read.

GENERAL SAFETY PRECAUTIONS

WARNING! PROTECT AGAINST FLYING DEBRIS

Always wear proper safety glasses, goggles or a face shield when driving pins in or out, or when any operation causes dust, flying debris, or any other hazardous material.

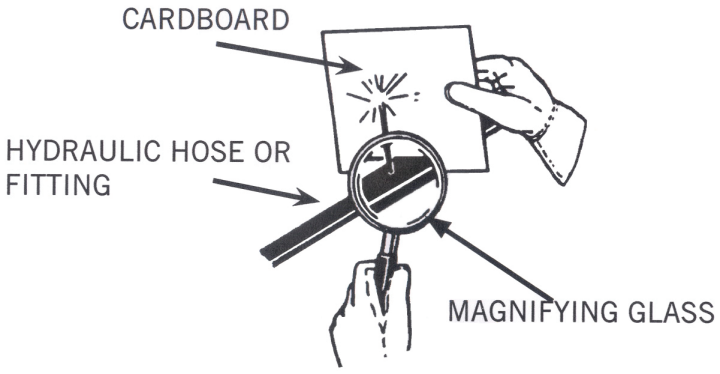
WARNING! LOWER OR SUPPORT RAISED EQUIPMENT

Do not work under raised booms without supporting them. Do not use support material made of concrete blocks, logs, buckets, barrels or any other material that could suddenly collapse or shift positions. Make sure support material is solid, not decayed, warped, twisted, or tapered. Lower booms to ground level or onto blocks. Lower booms and attachments to the ground before leaving the cab or operator's station.

WARNING! USE CARE WITH HYDRAULIC FLUID PRESSURE

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your prime movers operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

- Keep unprotected body parts, such as face, eyes, and arms as far away as possible from a suspected leak. Flesh injected with hydraulic fluid may develop gangrene or other permanent disabilities.
- If injured by injected fluid, see a doctor at once. If your doctor is not familiar with this type of injury, ask him to research immediately to determine proper treatment.
- Wear safety glasses, protective clothing, and use a sound piece of cardboard or wood when searching for hydraulic leaks. **DO NOT USE YOUR HANDS! SEE ILLUSTRATION.**



GENERAL SAFETY PRECAUTIONS

WARNING! DO NOT MODIFY MACHINE OR ATTACHMENTS

Modifications may weaken the integrity of the attachment and may impair the function, safety, life, and performance of the attachment. When making repairs, use only the manufacturer's genuine parts, following authorized instructions. Other parts may be substandard in fit and quality. Never modify any ROPS (Roll Over Protection Structure) or FOPS (Falling Object Protective Structure) equipment or device. Any modifications must be authorized in writing by the manufacturer.

WARNING! SAFELY MAINTAIN AND REPAIR EQUIPMENT

- Do not wear loose clothing, or any accessories that can catch in moving parts. If you have long hair, cover or secure it so that it does not become entangled in the equipment.
- Work on a level surface in a well-lit area.
- Use properly grounded electrical outlets and tools.
- Use the correct tool for the job at hand. Make sure they are in good condition for the task required.
- Wear the protective equipment specified by the tool manufacturer.

WARNING! SAFELY OPERATE EQUIPMENT

Do not operate equipment until you are completely trained by a qualified operator in how to use the controls, know its capabilities, dimensions, and all safety requirements. See your machine's manual for these instructions.

- Keep all step plates, grab bars, pedals, and controls free of dirt, grease, debris, and oil.
- Never allow anyone to be around the equipment when it is operating.
- Do not allow riders on the attachment or the prime mover.
- Do not operate the equipment from anywhere other than the correct operators position.
- Never leave equipment unattended with the engine running or with this attachment in a raised position.
- Do not alter or remove any safety feature from the prime mover or this attachment.
- Know your work site safety rules as well as traffic rules and flow. When in doubt on any safety issue, contact your supervisor or safety coordinator for an explanation.

WARNING! KNOW WHERE UTILITIES ARE

Observe overhead electrical and other utility lines. Be sure equipment will clear them. When digging, call your local utilities for location of buried utility lines, gas, water, and sewer, as well as any other hazard you may encounter.

EQUIPMENT SAFETY PRECAUTIONS

OPERATING THE CONCRETE CHUTER™

- An operator must not use drugs or alcohol, which can change his or her alertness or coordination. An operator taking prescription or over-the-counter drugs should seek medical advice on whether or not he or she can safely operate equipment.
- Operate only from the operator's station.
- Do not exceed the lifting capacity of your prime mover.
- Never heap or load heavy material where the combined weight of the bucket and material could exceed the rated lifting capacity of the loader.
- When operating on slopes, drive up and down, not across. Avoid steep hillside operation, which could cause the prime mover to overturn.
- Keep the heavy end of the machine uphill.
- Keep Prime mover lift arms and attachment as low as possible.
- Reduce speed when driving over rough terrain, on a slope, or turning, to avoid overturning the vehicle.
- Do not travel or turn with Prime mover lift arms and attachment raised.
- Never direct discharge toward people, animals or property.
- Operate only in the daylight or good artificial light.
- Always comply with all state and local lighting and marking requirements.
- Look down and to the rear and make sure area is clear before operating in reverse.
- Use extreme care when working close to fences, ditches, other obstructions, or on hillsides.
- Watch for hidden hazards on the terrain during operation.
- Stop Prime mover and implement immediately upon striking an obstruction. Dismount Prime mover using proper procedure. Inspect and repair any damage before resuming operation.
- Before exiting the prime mover, lower the attachment to the ground, turn off the primer mover's engine, remove the key and apply the brakes.

TRANSPORTING THE CONCRETE CHUTER™

- Travel only with the attachment in a safe transport position to prevent uncontrolled movement. Drive slowly over rough ground and on slopes.
- When driving on public roads use safety lights, reflectors, Slow Moving Vehicle signs etc., to prevent accidents. Check local government regulations that may affect you.
- Do not drive close to ditches, excavations, etc., cave in could result.
- Do not smoke when refueling the prime mover. Allow room in the gas tank for expansion. Wipe up any spilled fuel. Secure cap tightly when done.

EQUIPMENT SAFETY PRECAUTIONS

MAINTAINING THE CONCRETE CHUTER™

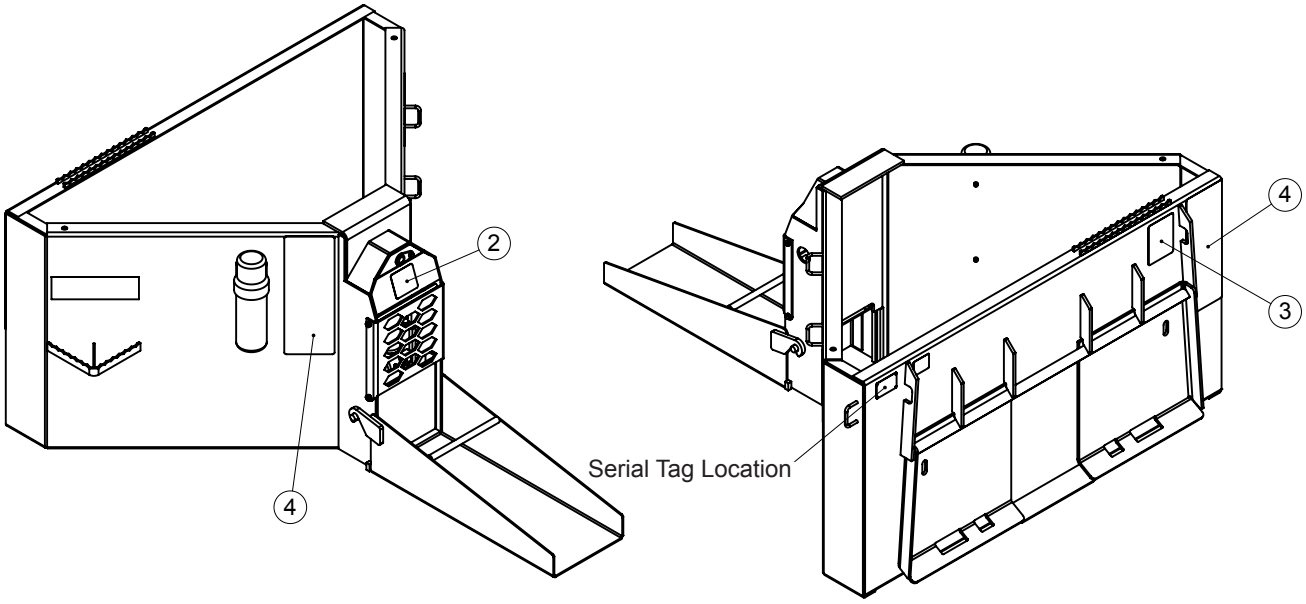
- Before performing maintenance, lower the attachment to the ground, turn off the engine, remove the key and apply the brakes.
- Never perform any work on the attachment unless you are authorized and qualified to do so. Always read the operator service manual's before any repair is made. After completing maintenance or repair, check for correct functioning of the attachment. If not functioning properly, always tag "DO NOT OPERATE" until all problems are corrected.
- Your dealer can supply original equipment hydraulic accessories and repair parts. Substitute parts may not meet original equipment specifications and may be dangerous.
- Never make hydraulic repair while the system is under pressure. Serious personal injury or death could result.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head.
- Do not allow other people in the area when operating, attaching, removing, and assembling or servicing equipment.
- Never go underneath equipment lowered to the ground or raised. Never place any part of the body underneath equipment or between moveable parts even when the engine has been turned off. Hydraulic system leak down, hydraulic system failures, mechanical failures or movement of control levers can cause equipment to drop or rotate unexpectedly and cause severe injury or death. Service work does not require going underneath equipment. Read operator’s manual for service instructions or have done by a qualified dealer.
- Avoid electrical system hazards. Never work on the electrical system unless you are qualified and thoroughly familiar with system details and the special handling requirements. Disconnect battery before working on electrical system. Remove “ground” cable first. When reconnecting battery, connect “ground” cable last.
- Ensure implement is properly attached, adjusted and in good operating condition. Prime mover coupler lock-pins must be fully extended and properly engaged into attachment retaining slots.
- Never perform service or maintenance with engine running.
- Keep all persons away from operator control area while performing adjustments, service or maintenance.
- Tighten all bolts, nuts and screws, and check that all cotter pins are installed securely to ensure equipment is in a safe condition before operating.
- Worn, damaged, or illegible safety decals must be replaced. New safety decals can be ordered from FFC.
- Ensure shields and guards are properly installed and in good condition. Replace if damaged.

DECALS

DECAL PLACEMENT

GENERAL INFORMATION

The diagram on this page shows the location of the decals used on the FFC Concrete Chuter™. The decals are identified by their part numbers, with reductions of the actual decals located on the following page. Use this information to order replacements for lost or damaged decals. Be sure to read all decals before operating the attachment. They contain information you need to know for both safety and product longevity.



C75 Shown

INSTRUCTIONS

- Keep all safety signs clean and legible.
- Replace all missing, illegible, or damaged safety signs.
- Replacement parts for parts with safety signs attached must also have safety signs attached.
- Safety signs are available, free of charge, from your dealer or from FFC.

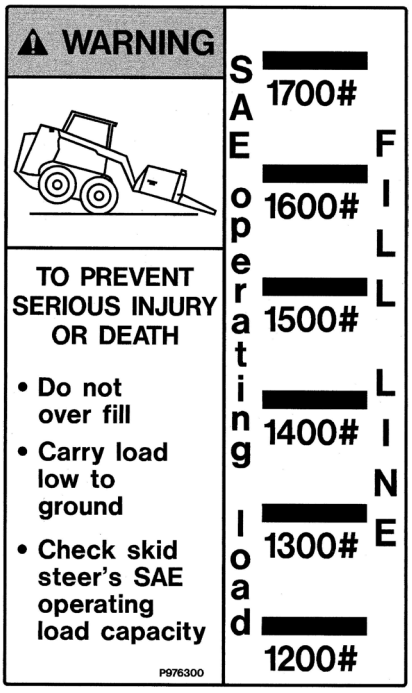
PLACEMENT OR REPLACEMENT OF SAFETY SIGNS

1. Clean the area of application with non-flammable solvent, and then wash the same area with soap and water.
2. Allow the surface to fully dry.
3. Remove the backing from the safety sign, exposing the adhesive surface.
4. Apply the safety sign to the position shown in the diagram above and smooth out any bubbles.

DECALS

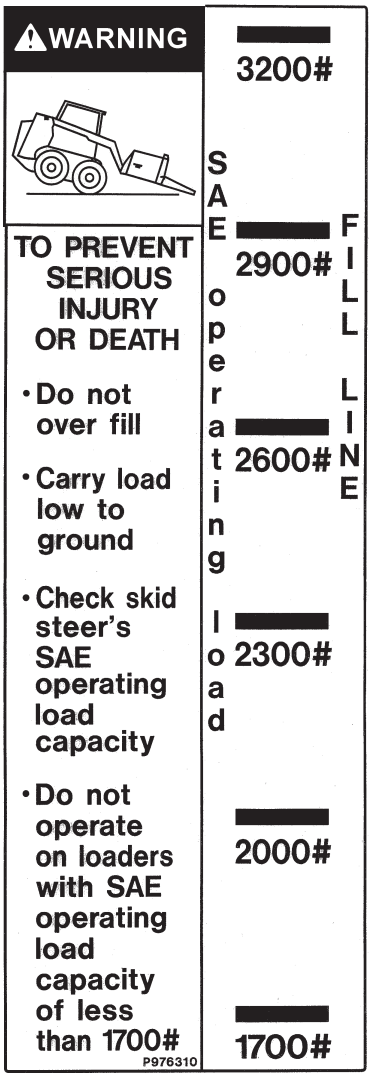
WARNING
TO AVOID SERIOUS INJURY OR DEATH,
▪ Read Operator's Manual and Skid Steer Manual before operating, servicing or repairing attachment. Follow all safety rules and instructions.
▪ Only operate from Skid Steer seat with seat belt/operator restraint securely fastened.
▪ Before leaving operator's seat: follow Skid Steer Manual instructions, lower lift arms and attachment to ground, stop engine, remove key, engage brake, remove seat belt/ operator restraint.
▪ Allow no children or untrained persons to operate equipment.
FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SERIOUS INJURY OR DEATH.
P976302

3. P976302
WARNING! READ MANUAL



4. P976300 (C50)
WARNING! OPERATING LOAD

2. P976301
WARNING! GUARDS



4. P976310 (C75)
WARNING! OPERATING LOAD

PRIME MOVER SPECIFICATIONS

IMPORTANT Exceeding any of the maximum recommended prime mover specifications **CAN** result in damage to this product and **WILL** void all FFC warranties.

DESCRIPTION	SPECIFICATIONS	
CONCRETE CHUTER™	C50	C75
Weight of Prime Mover without Concrete Chuter™	11,000 lbs. maximum	11,000 lbs. maximum
Lift Capacity of Prime Mover's Loader	1200 lbs. minimum	1700 lbs. minimum
Operating Capacity of Prime Mover's Loader	9500 lbs. maximum	9500 lbs. maximum
Hydraulic Pressure Output	3,000 psi maximum	
Rear Ballast	As required to maintain full prime mover stability. (Note the shipping weight of your model, then see the operator's manual(s) for your prime mover and loader for ballasting needs.)	

ATTACHMENT SPECIFICATIONS

Model Number	Overall Width	Overall Height	Overall Depth with Univ Mounts	Weight
10050	58"	28"	36"	500#
10075	58"	30-1/4"	38-1/2"	520#

BOLT TORQUE SPECIFICATIONS

GENERAL TORQUE SPECIFICATION TABLES

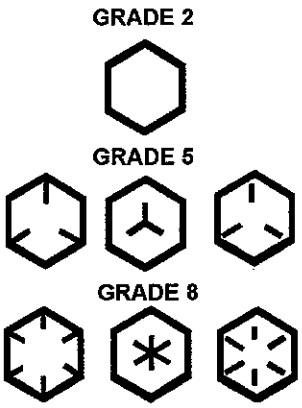
Use the following charts when determining bolt torque specifications when special torques are not given. Always use grade 5 or better when replacing bolts.

SAE BOLT TORQUE SPECIFICATIONS

NOTE: The following torque values are for use with extreme pressure lubricants, plating or hard washer applications Increase torque 15% when using hardware that is unplated and either dry or lubricated with engine oil.

Bolt Size		SAE GRADE 5 TORQUE				SAE GRADE 8 TORQUE			
		Pounds Feet		Newton-Meters		Pounds Feet		Newton-Meters	
Inches	Millimeters	UNC	UNF	UNC	UNF	UNC	UNF	UNC	UNF
1/4	6.35	8	9	11	12	10	13	14	18
5/16	7.94	14	17	19	23	20	25	27	34
3/8	9.53	30	36	41	49	38	46	52	62
7/16	11.11	46	54	62	73	60	71	81	96
1/2	12.70	68	82	92	111	94	112	127	152
9/16	14.29	94	112	127	152	136	163	184	221
5/8	15.88	128	153	174	207	187	224	254	304
3/4	19.05	230	275	312	373	323	395	438	536
7/8	22.23	340	408	461	553	510	612	691	830
1	25.40	493	592	668	803	765	918	1037	1245
1-1/8	25.58	680	748	922	1014	1088	1224	1475	1660
1-1/4	31.75	952	1054	1291	1429	1547	1700	2097	2305
1-3/8	34.93	1241	1428	1683	1936	2023	2312	2743	3135
1-1/2	38.10	1649	1870	2236	2535	2686	3026	3642	4103

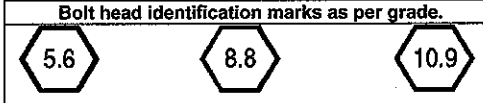
Bolt head identification marks as per grade.
NOTE: Manufacturing Marks Will Vary



METRIC BOLT TORQUE SPECIFICATIONS

NOTE: The following torque values are for use with metric hardware that is unplated and either dry or lubricated with engine oil. Reduce torque 15% when using hardware that has extreme pressure lubricants, plating or hard washer applications.

Bolt head identification marks as per grade.



Size of Bolt	Grade No.	Pitch (mm)	Pounds Feet	Newton-Meters	Pitch (mm)	Pounds Feet	Newton-Meters
M6	5.6	1.0	3.6-5.8	4.9-7.9	-	-	-
	8.8		5.8-.4	7.9-12.7		-	-
	10.9		7.2-10	9.8-13.6		-	-
M8	5.6	1.25	7.2-14	9.8-19	1.0	12-17	16.3-23
	8.8		17-22	23-29.8		19-27	25.7-36.6
	10.9		20-26	27.1-35.2		22-31	29.8-42
M10	5.6	1.5	20-25	27.1-33.9	1.25	20-29	27.1-39.3
	8.8		34-40	46.1-54.2		35-47	47.4-63.7
	10.9		38-46	51.5-62.3		40-52	54.2-70.5
M12	5.6	1.75	28-34	37.9-46.1	1.25	31-41	42-55.6
	8.8		51-59	69.1-79.9		56-68	75.9-92.1
	10.9		57-66	77.2-89.4		62-75	84-101.6
M14	5.6	2.0	49-56	66.4-75.9	1.5	52-64	70.5-86.7
	8.8		81-93	109.8-126		90-106	122-143.6
	10.9		96-109	130.1-147.7		107-124	145-168
M16	5.6	2.0	67-77	90.8-104.3	1.5	69-83	93.5-112.5
	8.8		116-130	157.2-176.2		120-138	162.6-187
	10.9		129-145	174.8-196.5		140-158	189.7-214.1
M18	5.6	2.0	88-100	119.2-136	1.5	100-117	136-158.5
	8.8		150-168	203.3-227.6		177-199	239.8-269.6
	10.9		175-194	237.1-262.9		202-231	273.7-313
M20	5.6	2.5	108-130	146.3-176.2	1.5	132-150	178.9-203.3
	8.8		186-205	252-277.8		206-242	279.1-327.9
	10.9		213-249	288.6-337.4		246-289	333.3-391.6

OPERATION

PREPARATION

- Always check with your prime mover manual or dealer for counter weight ballast that may be required for machine stability.
- Air in hydraulic systems can cause erratic operation and allows loads or equipment components to drop unexpectedly. Before operating or allowing anyone to approach the equipment, purge any air in the system by operating all hydraulic functions several times after connecting equipment, connecting hoses, or doing any hydraulic maintenance.
- After connecting hoses, check that all control lever positions function as instructed in the Operator's Manual. Do not operate until control lever and equipment movements are correct.
- Make sure all hydraulic hoses, fittings and valves are in good condition and not leaking before starting power unit or using equipment. Check and route hoses carefully to prevent damage. Hoses must not be twisted, bent sharply, kinked, frayed, pinched, or come into contact with any moving parts. Operate moveable components through full operational range to check clearances. Replace any damaged hoses immediately.
- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough-soled work shoes and protective equipment for eyes, hair, hands, hearing and head.
- Ensure implement is properly attached, adjusted and in good operating condition. Prime mover coupler lock-pins must be fully extended and properly engaged into attachment retaining slots.
- Prime mover must be equipped with ROPS and seat belt/operator restraint. Keep seatbelt/operator restraint securely fastened/engaged. Falling off prime mover can result in death from being run over or crushed. Keep ROPS systems in place at all times.
- Ensure all safety decals are installed. Replace if damaged. (See Safety Decals section for location.)
- Ensure shields and guards are properly installed and in good condition. Replace if damaged.

ATTACHING CONCRETE CHUTER™ TO PRIME MOVER

- Read the prime mover operator's manual connecting and removing instructions.
- Position hydraulic hoses so they will not be pinched when connecting the Concrete Chuter™.
- The Prime mover coupler handles should be in the unlocked position and the lock-pins retracted.
- Move to the Prime mover operator seat and start engine.
- Lower Prime mover lift arms to their lowest position.
- Carefully move and align the Prime mover to the Concrete Chuter™. The top of the prime mover coupler must index into the Concrete Chuter™ flange.
- Roll the prime mover coupler into the Concrete Chuter™ so the coupler handles can be changed.
- Shut off engine, set brake, and remove key. Dismount the prime mover.
- Move the prime mover's coupler handles to the locked position. The lock-pins must be completely extended and secured into the slots provided on the Concrete Chuter™.
- Connect hydraulic hoses to prime mover auxiliary quick couplers.

OPERATION

PRE-OPERATION CHECK LIST (OWNERS RESPONSIBILITY)

___ Review and follow all safety rules and safety decal instructions on pages 6 through 9.
___ Check that all safety decals are installed and in good condition. Replace if damaged.
___ Check that all shields and guards are properly installed and in good condition. Replace if damaged.
___ Check that all hardware and cotter pins are properly installed and secured.
___ Check that equipment is properly and securely attached to prime mover.
___ Do not allow riders.
___ Check and keep all bystanders away from equipment working area.
___ Check that all hydraulic hoses and fittings are in good condition and not leaking before starting prime mover.
___ Check that hoses are not twisted, bent sharply, kinked, frayed or pulled tight. Replace any damaged hoses immediately.
___ Make sure prime mover ROPS and seat belt are in good condition. Keep seat belt securely fastened during operation.

OPERATING INSTRUCTIONS

Read and understand the Concrete Chuter™ and prime mover operator's manuals before operating the Concrete Chuter™. Failure to do so may result in death, serious personal injury or property damage.

Never raise the Concrete Chuter™ more than a few inches off the ground when traveling from job site to job site.

Shut off the engine, set brake, remove key, remove seat belt, and release operator restraint. Dismount the prime mover.

FILLING CONCRETE CHUTER™

Always fill carrier with prime mover arms completely lowered.

Do not over fill. Check prime mover's SAE operating load capacity and refer to fill level decal for corresponding fill level.

TRAVEL

Always carry load low to the ground, and move at a speed appropriate to the conditions.

Start and stop very gradually, as the concrete being in liquid form will tend to surge, which can result in excessive spillage and erratic control of the prime mover.

DISPENSING

The dispensing flow gate is controlled by the auxiliary hydraulic control on the prime mover.

Opening the gate to match the amount desired can meter the flow of the concrete. With the optional chute attached, the concrete can be directed into more confined areas such as post and wall forms.

OPERATION

SHUTTING DOWN

Thoroughly rinse the Concrete Chuter™ after each use to prevent build-up of dried concrete and binding of the flow control gate.

Shut off engine, set brake, remove key, remove seat belt and release operator restraint before leaving the prime mover operator's seat.

REMOVING THE CONCRETE CHUTER™

WARNING! Serious injury or death may result from disengaging the attachment when the attachment is in an unstable position or carrying a load. Place the attachment in a stable position before disengaging.

CAUTION - Hoses for the attachment must be removed before the quick attach is disengaged. Pulling the attachment with the hoses could result in damage to the prime mover or the attachment.

1. Lower the attachment to the ground.
2. Engage the parking brake and shut down the prime mover. Be sure to relieve pressure to the auxiliary hydraulic lines.
3. Unfasten safety restraints and exit prime mover.
4. Disconnect the attachment hydraulic lines from the prime mover. Connect quick couplers together to keep clean.
5. Disengage attachment locking mechanism (mechanical type).
6. Enter prime mover, fasten safety restraints and start the prime mover.
7. Disengage attachment locking mechanism (hydraulic type).
8. Disengage the parking brake, and back away from the attachment.

STORAGE

CAUTION - Keep children and bystanders away from storage area.

1. Clean the unit thoroughly, removing all mud, dirt, and grease.
2. Inspect for visible signs of wear, breakage, or damage. Order any parts required, and make the necessary repairs to avoid delays when starting next season.
3. Tighten loose nuts, capscrews, and hydraulic connections.
4. Cap hydraulic couplers to protect against contaminates.
5. Touch up all unpainted surfaces with paint, to prevent rust.
6. Coat the exposed portions of the cylinder rod with grease.
7. Store the unit in a dry and protected place. Leaving the unit outside will materially shorten its life.

TROUBLESHOOTING

Problem	Possible Cause	Solution
Flow gate will not move up or down.	Hydraulic valve on prime mover not engaged.	See prime mover operator's manual for auxiliary hydraulic operation procedure.
	Worn, damaged, insufficient or inadequate pump.	Repair or replace hydraulic pump.
	Insufficient oil in system.	Service the prime mover hydraulic reservoir.
	Hose ends not completely engaged.	Check hose coupling and engage properly.
	Air in hydraulic lines.	Cycle prime mover auxiliary system several times to remove air from lines.
	Obstruction in hydraulic lines.	Replace obstructed or damaged line.
	Broken hose.	Replace broken hose.
	Obstruction between roller and barrier.	Reverse roller to clear obstruction.
	Excessive leakage of concrete.	Check urethane seal on flow control gate, replace if worn or damaged.
	Loose or damaged hoses.	Replace damaged hoses and secure loose hoses.
	Loose or damaged connections.	Replace damaged hose connections and tighten loose fittings.

MAINTENANCE

MAINTENANCE SCHEDULE

Procedure	Before each use	After each use	100 Hours	500 Hours	See Prime mover Manual
Fittings/hoses, hydraulic - Check for leaks/tighten - Check for damage	✓				
Fittings, zerk - Grease (See Lubrication Points)	✓				
Oil, hydraulic (Prime mover) - Check level	✓	See Below for Requirements.			
Hardware - Check for tightness	✓				

Oil Cleanliness Requirements

IMPORTANT - All hydraulic fluid shall be filtered before use in any FFC product to obtain the ISO cleanliness standard of 20/18/15. Unless explicitly specified otherwise.

Fittings/Hoses Inspection Guidelines

Stop the prime mover engine and release hydraulic pressure before servicing or adjusting hydraulic system.

WARNING! USE CARE WITH HYDRAULIC FLUID PRESSURE

Hydraulic fluid under pressure can penetrate the skin and cause serious injury or death. Hydraulic leaks under pressure may not be visible. Before connecting or disconnecting hydraulic hoses, read your prime movers operator's manual for detailed instructions on connecting and disconnecting hydraulic hoses or fittings.

Do not bend high pressure lines. Do not strike high pressure lines. Do not install bent lines, bent tubes, or kinked hoses. Do not install damaged lines, damaged tubes, or damaged hoses.

Repair loose lines, loose tubes, and loose hoses. Repair damaged lines, damaged tubes, and damaged hoses. Leaks can cause fires. See your FFC dealer for repair or replacement parts.

Check lines, tubes, and hoses carefully. Do not use your hand to check for leaks. Use a board or cardboard to check for leaks. Tighten all connections to the recommended torque.

Replace the parts if any of the following conditions are present:

- The end fittings are damaged or leaking.
- The outer covering is chafed or cut.
- The reinforcing wire layer is exposed.
- The outer cover is ballooning locally.
- The hose is kinked or crushed.
- The hoses have been pulled or stretched.

Make sure that all clamps, guards, and shields are installed correctly.

MAINTENANCE

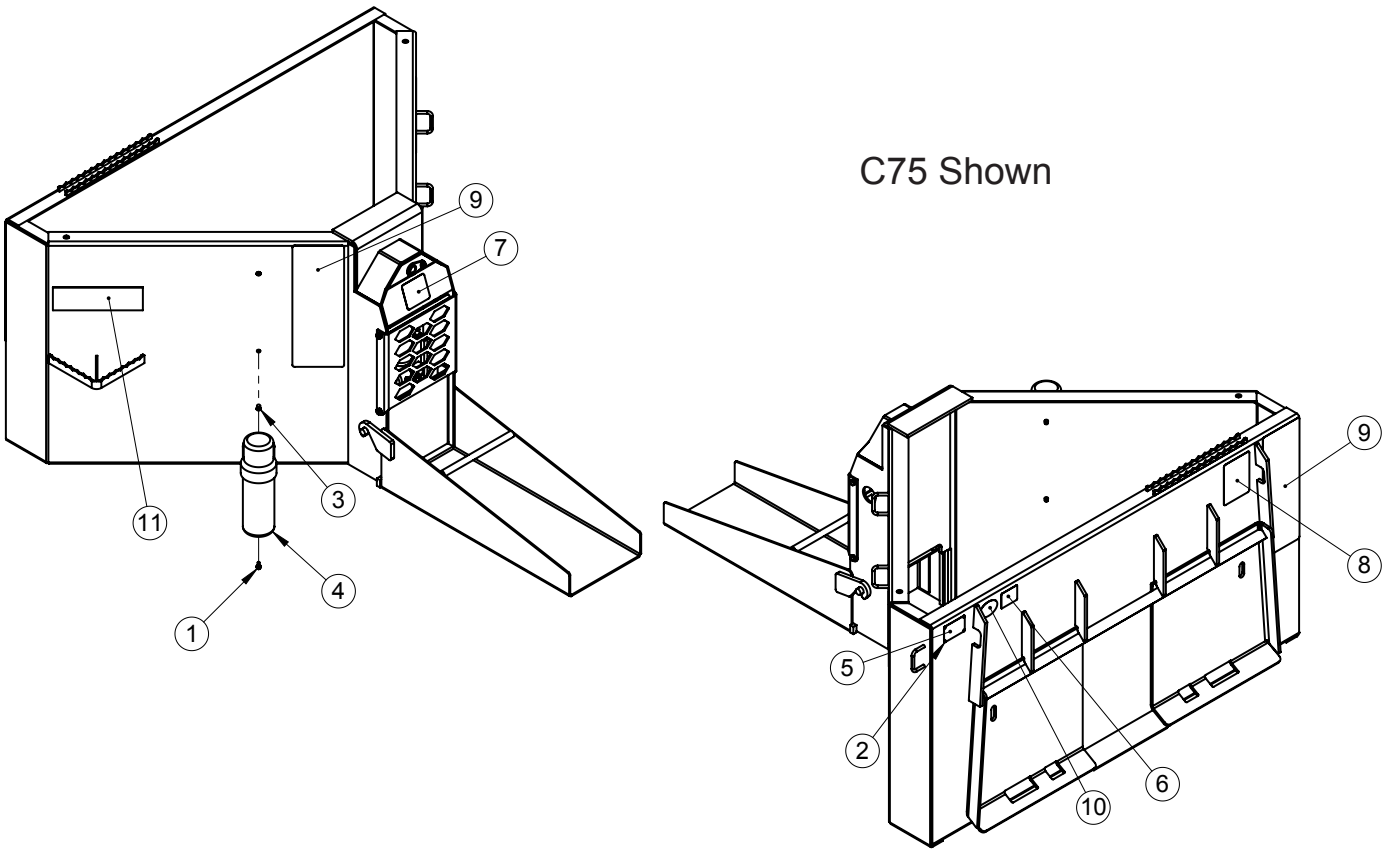
MAINTENANCE RECORD

Use this log to record maintenance performed on the attachment.

Date	Maintenance Procedure Performed	Performed by	Comments

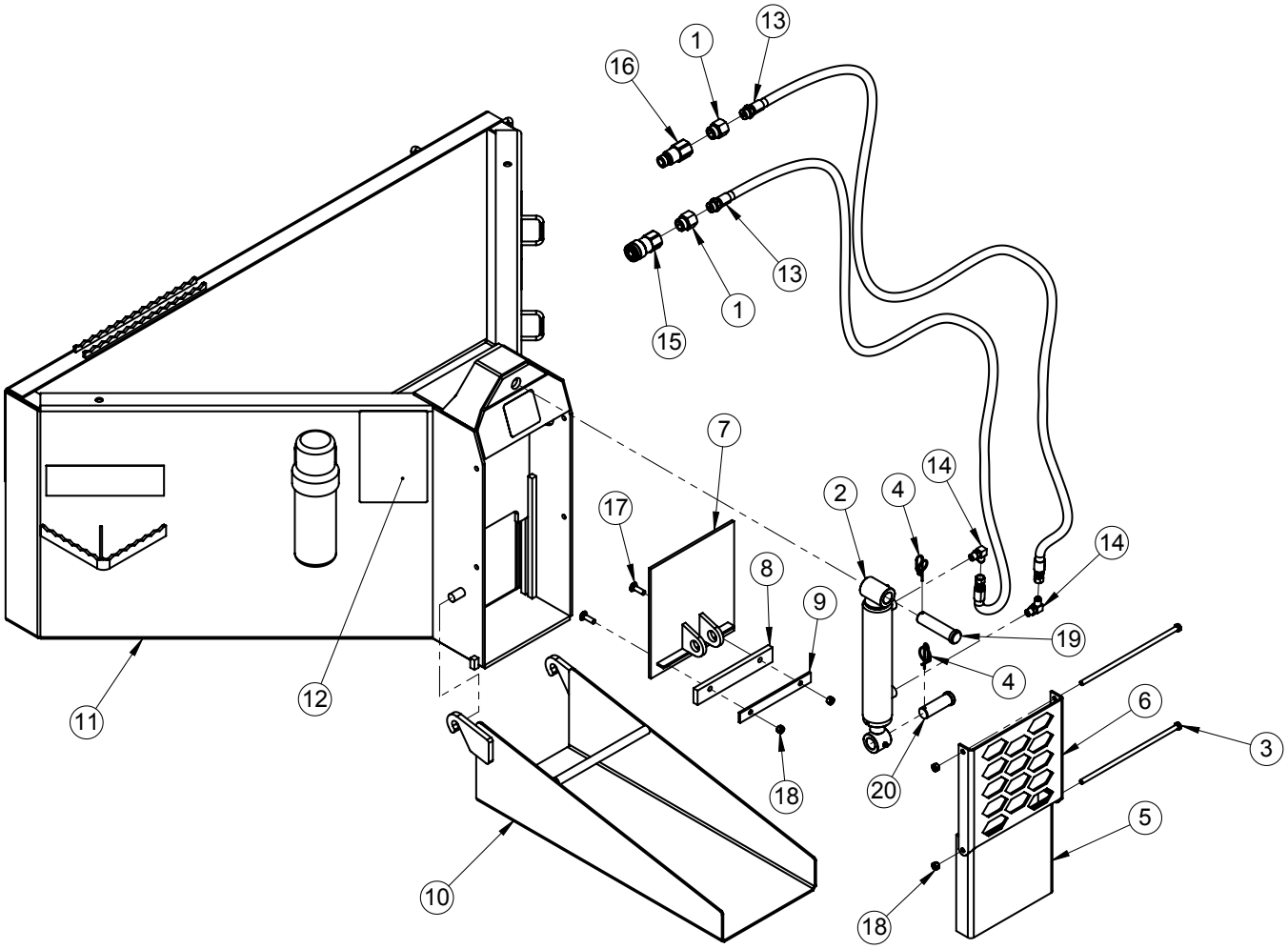
Notes

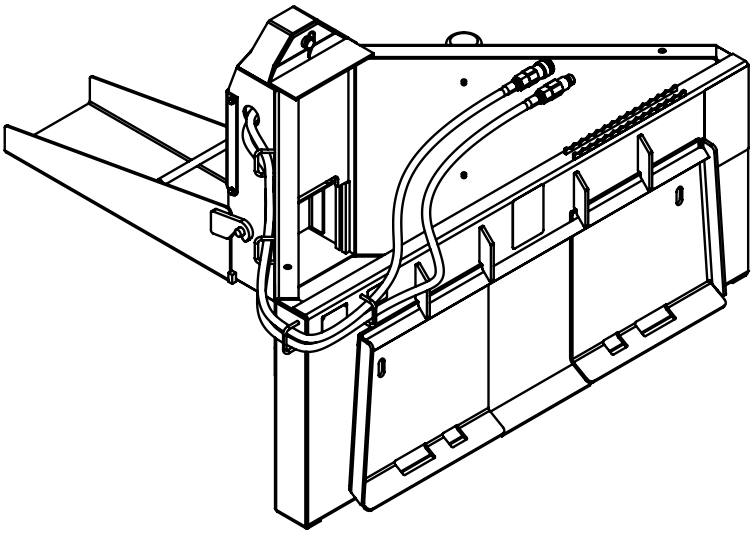
LABEL ASSEMBLY



Item	Part	Qty	Description
1.	07-2952	2	Screw, HFH, CL10.9, M6-1 x 20
2.	07-3624	4	Tack, Metal
3.	07-2956	2	Nut. Insert, M6 x 1, Grip .027-.165 (C50)
	07-3922	2	Nut. Insert, M6 x 1, Grip .165-.251 (C75)
4.	07-6869	1	Manual Holder
5.	50-0856	1	Label, Serial Plate
6.	50-0903	1	Label, Patent Numbers
7.	P976301	1	Label, Guard Warning
8.	P976302	1	Label, Manual Warning
9.	P976300	2	Decal, Lift Warning Cement (C50)
	P976310	2	Label, Lift Warning, 3/4 Yard
10.	RDL3137	1	Label, Made in USA
11 .	RDL3258	2	Label, Logo, FFC, Large

.50 CONCRETE CHUTER™ PARTS ILLUSTRATION



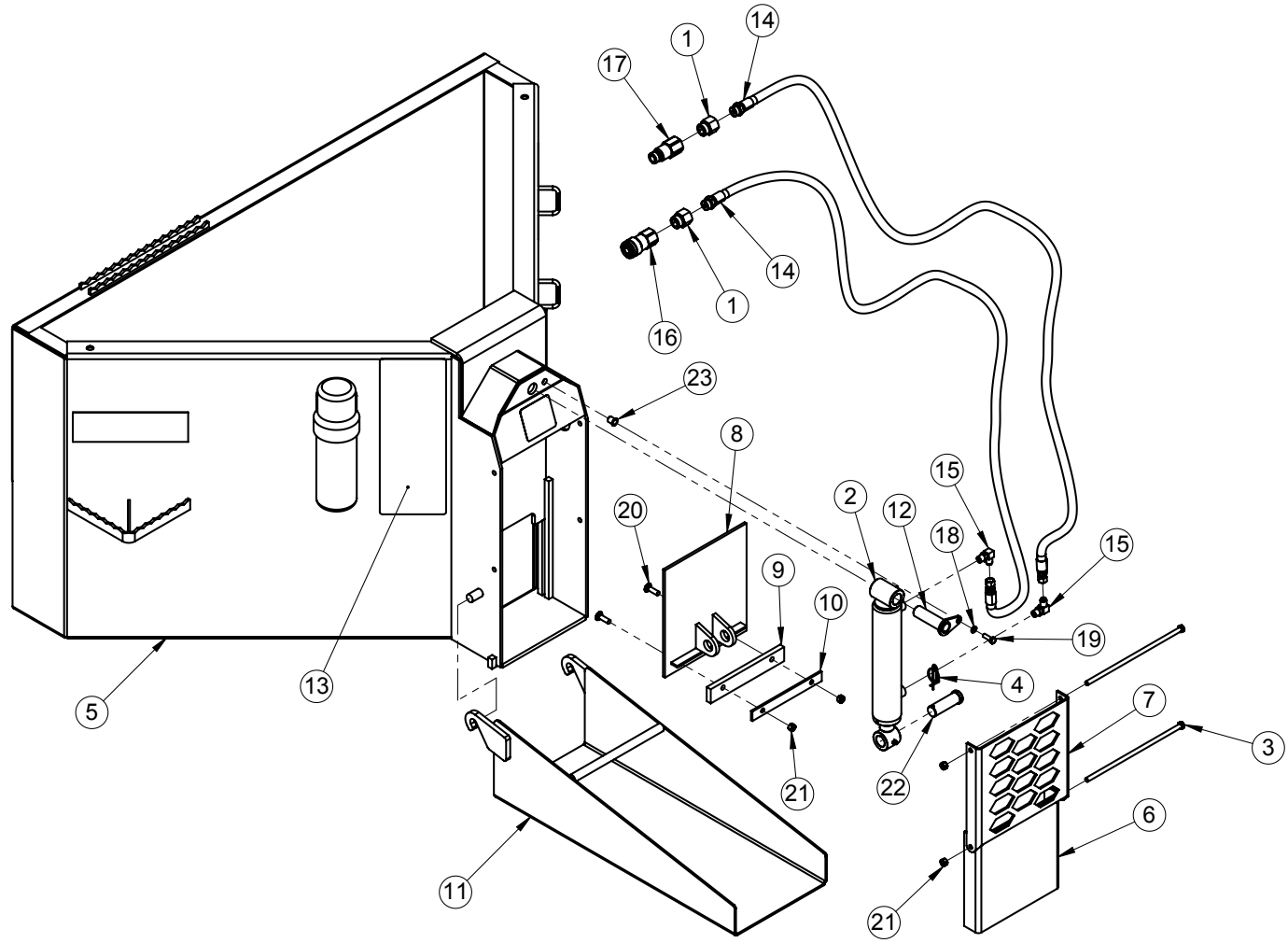


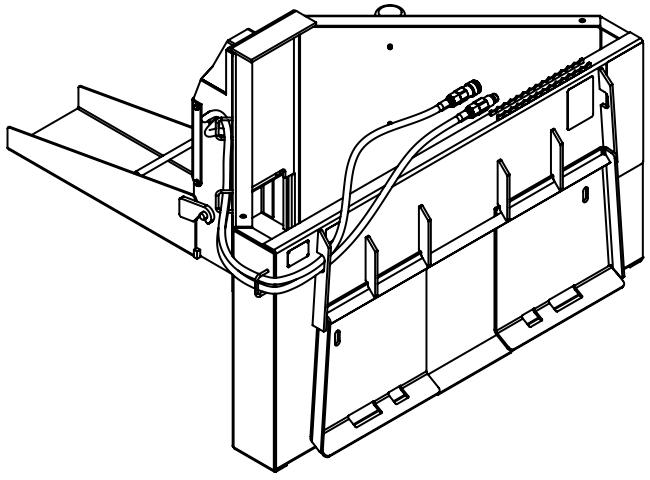
.50 CONCRETE CHUTER™ PARTS LIST

Item	Part	Qty	Description
1.	03-4618	2	Fitting, 10FB-12MB
2.	03-5728	1	Cylinder, 2 x 1.25 x 8, 3.5K
3.	07-10165	2	Screw, HHC, Gr5, 3/8-16 x 11.75
4.	07-10166	2	Cotter Ring, Rue-42, 1
5.	13-52640	1	Plate, Swing Gate
6.	13-52641	1	Plate, Cover, Front
7.	13-52642	1	Weld, Slide Gate
8.	13-52646	1	Gate, Seal
9.	13-52647	1	Plate, Seal, Strap
10.	13-52648	1	Weld, Chute
11.	13-52652-0022	1	Weld, Bucket, Carrier
12.	28-10616	1	Assembly, Labels
13.	LAF4354	2	Hose, .38 x 116, 6FJ-10MB
14.	P261350	2	Elbow, 90º, 6MJ-6MB
15.	P272670	1	QD, 8FF, Female, 12FB
16.	P272671	1	QD, 8FF, Male, 12FB
17.	RHW2207	2	Bolt, Carriage, Gr5, .38-16 x 1.25
18.	RHW7203	4	Nut, Lock, .38-16, Gr5
19.	RHW8216	1	Pin, Clevis, 1 x 4
20.	RHW8222	1	Pin, Clevis, 1 x 3

Replacement Parts for 03-5728 Cylinder:
45136 Seal Kit

.75 CONCRETE CHUTER™ PARTS ILLUSTRATION





.75 CONCRETE CHUTER™ PARTS LIST

Item	Part	Qty	Description
1.	03-4618	2	Fitting, 10FB-12MB
2.	03-5728	1	Cylinder, 2 x 1.25 x 8, 3.5K
3.	07-10165	2	Screw, HHC, Gr5, 3/8-16 x 11.75
4.	07-10166	1	Cotter Ring, Rue-42, 1
5.	13-52621-0022	1	Weld, Bucket, Carrier
6.	13-52640	1	Plate, Swing Gate
7.	13-52641	1	Plate, Cover, Front
8.	13-52642	1	Weld, Slide Gate
9.	13-52646	1	Gate, Seal
10.	13-52647	1	Plate, Seal, Strap
11.	13-52648	1	Weld, Chute
12.	13-52750	1	Weld, Cylinder Pin
13.	28-10617	1	Assembly, Labels
14.	LAF4354	2	Hose, .38 x 116, 6FJ-10MB
15.	P261350	2	Elbow, 90º, 6MJ-6MB
16.	P272670	1	QD, 8FF, Female, 12FB
17.	P272671	1	QD, 8FF, Male, 12FB
18.	P851105	1	Washer, Lock, 5/16
19.	RHW1105	1	Screw, HHC, Gr5, 5/16-18 x 1
20.	RHW2207	2	Bolt, Carriage, Gr5, .38-16 x 1.25
21.	RHW7203	4	Nut, Lock, .38-16, Gr5
22.	RHW8222	1	Pin, Clevis, 1 x 3
23.	RHW8642	1	Nut, Rivet, 5/16-18

Replacement Parts for 03-5728 Cylinder:
45136 Seal Kit

WARRANTY

Limited Warranty

Except for the Excluded Products as described below, all new products are warranted to be free from defects in material and/or workmanship during the Warranty Period, in accordance with and subject to the terms and conditions of this Limited Warranty.

1. Excluded Products. The following products are excluded from this Limited Warranty:

(a) Any cable, part that engages with the ground (i.e. sprockets), digging chain, bearing, teeth, tamping and/or demolition head, blade cutting edge, pilot bit, auger teeth and broom brush that either constitutes or is part of a product.

(b) Any product, merchandise or component that, in the opinion of Paladin Light Construction[1], has been (i) misused; (ii) modified in any unauthorized manner; (iii) altered; (iv) damaged; (v) involved in an accident; or (vi) repaired using parts not obtained through Paladin Light Construction.

2. Warranty Period. The Limited Warranty is provided only to those defects that occur during the Warranty Period, which is the period that begins on the first to occur of: (i) the date of initial purchase by an end-user, (ii) the date the product is first leased or rented, or (iii) the date that is six (6) months after the date of shipment by Paladin Light Construction as evidenced by the invoiced shipment date (the "Commencement Date") and ends on the date that is twelve (12) months after the Commencement Date.

3. Terms and Conditions of Limited Warranty. The following terms and conditions apply to the Limited Warranty hereby provided:

(a) Option to Repair or Replace. Paladin Light Construction shall have the option to repair or replace the product.

(b) Timely Repair and Notice. In order to obtain the Limited Warranty, (i) the product must be repaired within thirty (30) days from the date of failure, and (ii) a claim under the warranty must be submitted to Paladin Light Construction in writing within thirty (30) days from the date of repair.

(c) Return of Defective Part or Product. If requested by Paladin Light Construction, the alleged defective part or product shall be shipped to Paladin Light Construction at its manufacturing facility or other location specified by Paladin Light Construction, with freight PRE-PAID by the claimant, to allow Paladin Light Construction to inspect the part or product.

Claims that fail to comply with any of the above terms and conditions shall be denied.

LIMITATIONS AND EXCLUSIONS.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY BASED ON A COURSE OF DEALING OR USAGE OF TRADE.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR CONSEQUENTIAL OR SPECIAL DAMAGES.

IN NO EVENT SHALL PALADIN LIGHT CONSTRUCTION BE LIABLE FOR ANY LOSS OR CLAIM IN AN AMOUNT IN EXCESS OF THE PURCHASE PRICE, OR, AT THE OPTION OF PALADIN LIGHT CONSTRUCTION, THE REPAIR OR REPLACEMENT, OF THE PARTICULAR PRODUCT ON WHICH ANY CLAIM OF LOSS OR DAMAGE IS BASED. THIS LIMITATION OF LIABILITY APPLIES IRRESPECTIVE OF WHETHER THE CLAIM IS BASED ON BREACH OF CONTRACT, BREACH OF WARRANTY, NEGLIGENCE OR OTHER CAUSE AND WHETHER THE ALLEGED DEFECT IS DISCOVERABLE OR LATENT.

[1]Attachment Technologies Inc., a subsidiary of Paladin Brands Holding, Inc. (PBHI) is referred to herein as Paladin Light Construction.

February 10, 2010